



Jeb Bush
Governor

Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

August 5, 2003

- CERTIFIED MAIL - RETURN RECEIPT REQUESTED -

Ms Farzie Shelton
City of Lakeland
Department of Electric Utilities
501 East Lemon Street
Lakeland, Florida 33801-5050

**RE: City of Lakeland
C.D. McIntosh, Jr., Power Plant
Modification to Conditions of Certification
DEP Case Number PA 74-06 I
OGC Case Number 03-1018**

ORDER MODIFYING CONDITIONS OF CERTIFICATION

Dear Ms Shelton:

On October 2, 2002, the Florida Department of Environmental Protection ("Department") received a request to modify the Conditions of Certification for the McIntosh Power Plant, Unit 3 to discontinue the requirement for ambient air monitoring. On October 8, 2002, the Department modified Air Construction Permit PSD-FL-245 for the McIntosh Power Plant, Unit 5. The Department proposes to modify the Conditions of Certification for this facility pursuant to Rule 62-17.211(4), Florida Administrative Code ("F.A.C.") to allow the discontinuance of the ambient monitoring for Unit 3 and to conform the Conditions for Unit 5 to the Air Construction permit.

The Department has reviewed the modification request. On June 19, 2003, all parties to the certification proceeding were provided with notice by certified mail of the Department's intent to modify the Conditions of Certification for this facility, along with a copy of the proposed Order Modifying Conditions of Certification. Additionally, on June 27, 2003, notice of the Department's intent to modify the Conditions of Certification for this facility was published in the Florida Administrative Weekly ("FAW"), and on the Department's internet home page at <http://www.dep.state.fl.us/> under the link or button titled "Official Notices." Those notices specified that pursuant to Section 403.516, Florida Statutes ("F.S."), and Rule 62-17.211, Florida Administrative Code ("F.A.C."), all parties to the certification proceeding have 45 days from the issuance of notice by mail to such party's last address of record in which to file a written objection to the modification; that any person who is not already a party to the certification

proceeding and whose substantial interests will be affected by the requested modification has 30 days from the date of publication of the public notice in the Florida Administrative Weekly to object in writing; that failure to act within the time frame constitutes a waiver of the right to become a party; and that the Department will issue an Order Modifying the Conditions of Certification for this facility if no written objections are received by the Department.

No objections to the modification have been received by the Department. The Conditions of Certification for the McIntosh Power Plant are hereby modified as follows:

For Unit 3

I. AIR UNIT NO. 3

A. No change

B. Air Monitoring Program

1. No change

~~2. The permittee shall operate the ambient monitoring device for sulfur dioxide in accordance with EPA reference methods in 40 CFR Part 53 and two ambient monitoring devices for suspended particulates. New and existing monitoring devices shall be located as designated by the Department. The frequency of operation shall be every six days or as specified by the Department.~~

~~3~~ 2. The permittee shall maintain a daily log of fuels used and copies of fuel analyses containing information on sulfur content, ash content and heating values to facilitate calculations of emissions.

~~4~~ 3. The permittee shall provide sampling ports into the stack and shall provide access to the sampling ports, in accordance with Rule 62-297, F.A.C.

~~5~~ 4. The ambient monitoring program may be reviewed annually beginning two years after start-up of Unit No. 2 by the Department and the permittee.

~~6~~ 5. Emission Control Systems:

Prior to operation of the source, the owner or operator shall submit to the Department a standardized plan or procedure that will allow the company to monitor emission control equipment efficiency and enable the company to return malfunctioning equipment to proper operation as expeditiously as possible.

For Unit 5

McIntosh Power Plant
Order Modifying Conditions of Certification
DEP Case Number PA 74-06 I
August 5, 2003

A. Air Construction PSD Permit

Air Construction Permit Number PSD-FL-245, which is attached as Appendix A, is incorporated by reference herein as part of this Certification. The provisions of Air Construction Permit Number PSD-FL-245 shall be conditions of this certification. The licensee shall comply with the substantive provisions and limitations set forth in Air Construction Permit Number PSD-FL-245 as part of these Conditions of Certification, and as those provisions may be modified in the future by the Department. Such provisions shall be fully enforceable as conditions of this certification. Any violation of such provisions shall be a violation of these Conditions of Certification.

The Permittee shall comply with all limitations, restrictions, and conditions contained in PSD permit number PSD-FL-245. The PSD permit is included in and made part of these Conditions of Certification as follows:

PERMITTEE:

City of Lakeland
Department of Electric & Water Utilities
501 East Lemon Street
Lakeland, FL 33801-5079

File No.	1050004-004 AC
FID No.	1050004-004
SIC No.	4911
Permit No.	PSD-FL-245
Expires:	June 30, 2002

Authorized Representative: Ronald W. Tomlin
Assistant Managing Director

PROJECT AND LOCATION:

Permit for the construction of 250 megawatt (MW) simple cycle, gas fired, stationary combustion turbine (CT), a once-through steam generator, and a 1.05 million gallon storage tank for back-up distillate fuel oil. Conditions are included for possible future conversion to a 350 megawatt combined cycle installation including a heat recovery steam generator provided there are no increases in emissions associated with the conversion. The turbine is designated as Unit No. 5 and will be located at the C.D. McIntosh, Jr., Power Plant, 3030 East Lake Parker Drive, Lakeland, Polk County. UTM coordinates are: Zone 17; 409.0 km E; 3106.2 km N.

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The above-named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved

McIntosh Power Plant
Order Modifying Conditions of Certification
DEP Case Number PA 74-06 I
August 5, 2003

drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached appendices and Tables made a part of this permit:

Appendix BD
Appendix GC

BACT Determination
Construction Permit General Conditions

(signature)

Howard L. Rhodes, Director
Division of Air Resources Management

AIR CONSTRUCTION PERMIT PSD-FL-245 (1050004-004-AC)

SECTION 1. FACILITY INFORMATION

SUBSECTION A. FACILITY DESCRIPTION

The existing facility includes: two small diesel powered electric generators; one small gas and distillate fired combustion turbine; one 90 MW gas and fuel oil fired steam generator; one 115 MW gas and fuel oil fired steam generator; and one 364 MW multiple (primarily coal) fuel fired steam generator. This permit is for the installation of: a 250 MW simple cycle, gas fired, stationary combustion turbine; a once through steam generator; a 1.05 million gallon storage tank for back-up (0.05 percent sulfur) distillate fuel oil; and an 85-foot stack. It is possible that in the future the turbine will be converted by the addition of a heat recovery steam generator and a new stack to a 350 MW combined cycle operation without increases in emissions.

Emissions from the McIntosh Unit 5 will be initially controlled by Dry Low NO_x combustors, wet injection when firing fuel oil, use of inherently clean fuels, and good combustion practices. Ultimately the combustors will be replaced and nitrogen oxides emissions reduced by more sophisticated Ultra Low NO_x burners. Otherwise emissions will be reduced by the addition of a selective catalytic reduction (SCR) system.

SUBSECTION B. EMISSION UNITS

This permit addresses the following emission units:

ARMS EMISSION UNIT NO.	SYSTEM	EMISSION UNIT DESCRIPTION
028	Power Generation	250 Megawatt Combustion Turbine and Once Through Steam Generator
029	Fuel Storage	1.05 Million Gallon Fuel Oil Storage Tank

~~SUBSECTION C. REGULATORY CLASSIFICATION~~

~~The facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 tons per year (TPY).~~

~~This facility is within an industry included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a Major Facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD). Per Table 62-212.400-2, modifications (such as the construction of Unit 5) at the facility resulting in emissions increases greater than 40 TPY of NO_x or SO₂, 25/15 TPY of PM/PM₁₀, or 3 TPY of fluorides (F) require review per the PSD rules and a determination for Best Available Control Technology (BACT) per Rule 62-212.400, F.A.C.~~

~~This facility is also subject to the provisions of Title IV, Acid Rain, Clean Air Act as amended in 1990.~~

~~SUBSECTION D. PERMIT SCHEDULE~~

~~04/22/98 Notice of Intent published in The Ledger
04/23/98 Distributed Intent to Issue Permit
04/01/98 Application deemed complete
12/08/97 Received Application~~

~~SUBSECTION E. RELEVANT DOCUMENTS:~~

~~The documents listed below are the basis of the permit. They are specifically related to this permitting action, but not all are incorporated into this permit. These documents are on file with the Department.~~

~~Application received on December 8, 1997
Department letters dated January 5, January 12, March 9, 1998, and April 27, 1998
Comments and letters from the National Park Service dated January 6, January 12, April 2 and April 15, 1998.
EPA letters dated February 10 and March 6, 1998.
City of Lakeland letters dated March 4, March 11, March 31, and May 6, 1998.
Letters from Westinghouse dated March 25, March 30, and March 31, 1998.
Department's Intent to Issue and Public Notice Package dated April 22, 1998.
Department's Final Determination and Best Available Control Technology Determination issued concurrently with this permit.~~

~~SECTION II EMISSION UNIT(S) GENERAL REQUIREMENTS~~

~~GENERAL AND ADMINISTRATIVE REQUIREMENTS~~

1. ~~Regulating Agencies:~~ All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP), at 2600 Blairstone Road, Tallahassee, Florida 32399-2400 and phone number (850)488-1344. All documents related to reports, tests, and notifications should be submitted to the DEP Southwest District office (DEPSW), 3804 Coconut Palm Drive, Tampa, Florida 33619 and phone number 813/744-6100.
2. ~~General Conditions:~~ The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
3. ~~Terminology:~~ The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
4. ~~Forms and Application Procedures:~~ The permittee shall use the applicable forms listed in Rule 210-900, F.A.C. and follow the application Procedures in Chapter 62-4, F.A.C. [Rule 62-210.900, F.A.C.]
5. ~~Modifications:~~ The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change. [Chapters 62-210 and 62-212]
6. ~~Expiration:~~ Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that the extension is justified. [40 CFR 52.21(r)(2)]
7. ~~BACT Determination:~~ In accordance with paragraph (4) of 40 CFR 52.21(j) the Best Available Control Technology (BACT) determination shall be reviewed and modified as appropriate in the event of a conversion to combined cycle operation. This paragraph states: "For phased construction project, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to

demonstrate the adequacy of any previous determination of best available control technology for the source."

~~This reassessment will be conducted for this project only if the conversion to combined cycle operation is accompanied by any increases in heat input limits, hours of operation, oil firing, low or baseload operation, short term or annual emission limits, annual fuel heat input limits or similar changes. At a minimum, conversion to combined cycle operation will require a modification of this permit to reflect the ultimate facility description, the higher power production rates and review of the actual control equipment design. [40 CFR 52.21(j)(4), Rule 62-4.070 F.A.C.]~~

8. ~~Application for Title V Permit: An application for a Title V operating permit, pursuant to Chapter 62-213, F.A.C., must be submitted to the DEP's Bureau of Air Regulation, and a copy to the Department Southwest District office (DEPSW). [Chapter 62-213, F.A.C.]~~

9. ~~New or Additional Conditions: Pursuant to Rule 62-4.080, F.A.C., for good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]~~

10. ~~Annual Reports: Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the Permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports shall be sent to the DEP's Southwest District office by March 1st of each year.~~

11. ~~Stack Testing Facilities: Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.~~

12. ~~Permit Extension: The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (Rule 62-4.080, F.A.C.).~~

13. ~~Quarterly Reports: Quarterly excess emission reports, in accordance with 40 CFR 60.7 (a)(7) (e) (1997 version), shall be submitted to the DEP's Southwest District office.~~

~~SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS~~

~~APPLICABLE STANDARDS AND REGULATIONS:~~

1. ~~Unless otherwise indicated in this permit the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296,~~

62-297; and the applicable requirements of the Code of Federal Regulations Section 40, Parts 60, 72, 73, and 75.

2. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]

3. These emission units shall comply with all applicable requirements of 40 CFR 60, Subpart A, General Provisions including:
40CFR60.7, Notification and Recordkeeping
40CFR60.8, Performance Tests
40CFR60.11, Compliance with Standards and Maintenance Requirements
40CFR60.12, Circumvention
40CFR60.13, Monitoring Requirements
40CFR60.19, General Notification and Reporting requirements

4. ARMS Emission Unit 028, Power Generation, consisting of a 250 megawatt combustion turbine with a once-through steam generator shall comply with all applicable provisions of 40CFR60, Subpart GG, Standards of performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800(7)(b), F.A.C. The Subpart GG requirement to correct test data to ISO conditions applies. However, such correction is not used for compliance determinations with the BACT standard(s).

5. ARMS Emission Unit 029, Fuel Storage, consisting of a 1.05 million gallon distillate fuel oil storage tank shall comply with all applicable provisions of 40CFR60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels, adopted by reference in Rule 62-204.800, F.A.C.

6. All notifications and reports required by the above specific conditions shall be submitted to the DEP's Southwest District office.

GENERAL OPERATION REQUIREMENTS

7. Fuels: Only pipeline natural gas or maximum 0.05 percent sulfur fuel oil No. 2 or superior grade of distillate fuel oil shall be fired in this unit. [Applicant Request, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]

8. Capacity: The maximum heat input rates, based on the lower heating value (LHV) of each fuel to Unit 5 at ambient conditions of 59°F temperature, 60% relative humidity, 100% load, and 14.7 psi pressure shall not exceed 2,174 million Btu per hour (mmBtu/hr) when firing natural gas, nor 2,236 mmBtu/hr when firing No. 2 or superior grade of distillate fuel oil. These maximum heat input rates will vary depending upon ambient conditions and the combustion turbine characteristics. Manufacturer's curves corrected for site conditions or equations for correction to other ambient conditions shall be provided to the Department of

Environmental Protection (DEP) within 45 days of completing the initial compliance testing.
[Design, Rule 62-210.200, F.A.C. (Definitions—Potential Emissions)]

9. ~~Unconfined Particulate Emissions:~~ During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary.

10. ~~Plant Operation Problems:~~ If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the DEP Southwest District office as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]

11. ~~Operating Procedures:~~ Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. [Rule 62-4.070(3), F.A.C.]

12. ~~Circumvention:~~ The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rules 62-210.650, F.A.C.]

13. ~~Maximum allowable hours of operation for the stationary gas turbine and once-through steam generator are 8760. Fuel usage as heat input, while burning natural gas in the stationary gas turbine, shall not exceed 15.639×10^{12} BTU (LHV) per year (rolled monthly) until the unit achieves the NO_x emission limits (other than the initial ones) given in Specific Condition 21. Thereafter, only the hourly heat input limits given in Specific Condition 8 apply.~~ [Applicant: Request, Rule 62-210.200, F.A.C. (Definitions—Potential Emissions)]

14. ~~Fuel usage as heat input, while burning fuel oil in the stationary gas turbine, shall not exceed 559×10^9 BTU (LHV) per year (rolled monthly).~~ [Applicant Request, Rule 62-210.200, F.A.C. (Definitions—Potential Emissions)]

CONTROL TECHNOLOGY

15. ~~Westinghouse Dry Low NO_x (DLN) combustors shall be installed on the stationary combustion turbine to control nitrogen oxides (NO_x) emissions while firing natural gas.~~ [Design, Rule 62-4.070, F.A.C.]

16. ~~The Dry Low NO_x (DLN) combustors shall be replaced with Westinghouse Ultra Low NO_x (ULN) combustors to accomplish further NO_x control in order to achieve the emission limits specified in Specific Condition 20 and 21. A high temperature selective catalytic reduction (Hot SCR) system or a low temperature SCR system shall be installed and in operation (together with DLN or ULN combustors) not later than May 1, 2002 if the emission limits specified in Specific Condition No 20 and 21 are not achievable by ULN combustors by this date. [Design, Rules 62-4.070 and 62-212.400, F.A.C.]~~

17. ~~The permittee shall design the stationary gas turbine, ducting, possible future heat recovery steam generator, and stack(s) to accommodate installation of SCR equipment and/or oxidation catalyst in the event that the ULN technology fails to achieve the NO_x limits given in Specific Condition No. 20 and 21 or the carbon monoxide (CO) limits given in Specific Condition 22 are not met. [Rule 62-4.070, F.A.C.]~~

18. ~~A water injection system shall be installed for use when firing No. 2 or superior grade distillate fuel oil for control of NO_x emissions. [Design, Rules 62-4.070 and 62-212.400, F.A.C.]~~

19. ~~The permittee shall provide manufacturer's emissions performance versus load diagrams for the DLN and ULN systems prior to their installation. DLN and ULN systems shall each be tuned upon initial operation to optimize emissions reductions and shall be maintained to minimize NO_x emissions and CO emissions. Operation of the DLN or ULN systems in the diffusion firing mode shall be minimized when firing natural gas. [Rule 62-4.070, and 62-210.650 F.A.C.]~~

EMISSION LIMITS AND STANDARDS

20. ~~The following table is a summary of the BACT determination and is followed by the applicable specific conditions. Values for NO_x are corrected to 15% O₂. Values for CO are corrected to 15% O₂ only until May 1, 2002. [Rule 62-212.400, F.A.C.]~~

Operational Mode	NO _x (ppm)	CO (ppm)	VOC (ppm)	PM/Visibility (% Opacity)	Technology and Comments
Simple Cycle	25 NG (basis) 237 lb/hr (24-hr avg) 42 FO 3-hr avg	25 NG or 10 Ox Cat 90 FO	4 NG 10 FO	10	DLN on gas; WI on oil. Applies until 05/1/2002. Clean fuels, good combustion
Simple Cycle	9 NG (basis) 85 lb/hr (24-hr avg)	25 NG or 10 Ox Cat 90 FO	4 NG 10 FO	10	ULN on gas; WI on oil. Applies until

Operational Mode	NO _x (ppm)	CO (ppm)	VOC (ppm)	PM/Visibility (% Opacity)	Technology and Comments
	42 FO				05/1/2002: Clean fuels, good combustion
Simple Cycle	9 NG (3 hr avg) 15 FO (3 hr avg)	25 NG or 10 Ox Cat 90 FO	4 NG 10 FO	10	Hot SCR. Applies not later than 05/1/2002 if 9 ppm NO _x not achievable by ULN. Clean fuels, good combustion.
Simple Cycle	7.5 NG (3 hr avg) 15 FO (3 hr avg)	25 NG or 10 Ox Cat 90 FO	4 NG 10 FO	10	Conventional SCR unless simple cycle limits are achieved on or before 05/01/2002. Clean fuels, good combustion

21. ~~Nitrogen Oxides (NO_x) Emissions:~~

When NO_x monitoring data is not available, substitution for missing data shall be handled as required by Title IV (40 CFR 75) to calculate any specified average time.

Until May 1, 2002, the concentration of NO_x in the exhaust gas shall not exceed 237 lb/hr (at ISO conditions) on a 24 hr block average (basis 25 ppm @ 15% O₂, full load) when firing natural gas and 42 ppmvd at 15% O₂ when firing fuel oil on the basis of a 3 hr average as measured by the continuous emission monitoring system (CEMS). In addition, NO_x emissions calculated as NO₂ (at ISO conditions) shall exceed neither 25 ppm @ 15% O₂ nor 237 lb/hr (when firing natural gas) and shall exceed neither 42 ppm @ 15% O₂ nor 413 lb/hr when firing fuel oil) to be demonstrated by stack test. [Rule 62-212.400, F.A.C.]

Not later than May 1, 2002, the concentration of NO_x concentrations in the exhaust gas shall not exceed 85 lb/hr (at ISO conditions) on a 24 hr block average (basis 9 ppm

~~@ 15% O₂) when firing natural gas and 42 ppmvd at 15% O₂ when firing fuel oil on the basis of a 3-hr average as measured by the CEMS. In addition, NO_x emissions calculated as NO₂ (at ISO conditions) shall exceed neither 9 ppm @ 15% O₂ nor 85 lb/hr (when firing natural gas) and shall exceed neither ppm @ 15% O₂ nor 413 lb/hr (when firing fuel oil) to be demonstrated by stack test. [Rule 62-212.400, F.A.C.]~~

If Hot SCR is installed, achievable short-term NO_x concentrations in the exhaust gas shall be demonstrated at baseload during the first compliance test following installation not to exceed 9 ppmvd at 15% O₂ when firing natural gas. NO_x emissions shall not exceed 9 ppmvd at 15% O₂ when firing natural gas and 15 ppmvd at 15% O₂ when firing fuel oil on the basis of a 3-hr average, as measured by the CEMS. In addition, NO_x emissions calculated as NO₂ (at ISO conditions) shall not exceed 85 lb/hr (when firing natural gas) and 148 lb/hr (when firing fuel oil) to be demonstrated by stack test. [Rule 62-212.400, F.A.C.]

If conventional SCR is installed in conjunction with conversion to combined cycle operation, achievable short-term NO_x concentrations in the exhaust gas shall be demonstrated at baseload during the first compliance test following installation not to exceed 7.5 ppmvd at 15% O₂ when firing natural gas. If conventional SCR catalyst is installed, NO_x emissions shall not exceed 7.5 ppmvd at 15% O₂ when firing natural gas and 15 ppmvd at 15% O₂ when firing fuel oil on the basis of 3-hr average, as measured by the CEMS. In addition, NO_x emissions calculated as NO₂ (at ISO conditions) shall not exceed 71.1 lb/hr (when firing natural gas) and 148 lb/hr (when firing fuel oil) to be demonstrated by stack test. [Rule 62-212.400, F.A.C.]

22. Carbon Monoxide (CO) emissions: Prior to May 1, 2002, the concentration of CO (@ 15% O₂ in the exhaust gas when firing natural gas shall not exceed 25 ppmvd when firing natural gas and 90 ppmvd when firing fuel oil as measured by EPA Method 10. CO emissions (at ISO conditions) shall not exceed 145 lb/hr (when firing natural gas) and 539 lb/hr (when firing fuel oil). [Rule 62-212.400, F.A.C.]

After May 1, 2002, the concentration of CO in the exhaust gas when firing natural gas shall not exceed 25 ppmvd when firing natural gas and 90 ppmvd when firing fuel oil as measured by EPA Method 10. CO emissions (at ISO conditions) shall not exceed 106 lb/hr (when firing natural gas) and 386 lb/hr (when firing fuel oil). [Rule 62-212.400, F.A.C.]

23. Sulfur Dioxide (SO₂) emissions: SO₂ emissions (at ISO conditions) shall not exceed 7.2 pounds per hour when firing pipeline natural gas and 127 pounds per hour when firing maximum 0.05 percent sulfur No. 2 or superior grade distillate fuel oil as measured by applicable compliance methods described below. Emissions of SO₂ shall not exceed 38.4 tons per year. [Rules 62-4.070 and 62-212.400, F.A.C. to avoid PSD Review]

24. Visible emissions (VE): VE emissions shall not exceed 10 percent opacity when firing natural gas or No. 2 or superior grade of fuel oil.

25. ~~Volatile Organic Compounds (VOC) Emissions: The concentration of VOC in the exhaust gas when firing natural gas shall not exceed 4 ppmvd when firing natural gas and 10 ppmvd when firing fuel oil as assured by EPA Methods 18, and/or 25 A. VOC emissions (at ISO conditions) shall not exceed 10 lb/hr (when firing natural gas) and 25 lb/hr (when firing fuel oil). [Rule 62-212.400, F.A.C.]~~

EXCESS EMISSIONS

26. ~~Excess emissions resulting from startup, shutdown, malfunction or fuel switching shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed four hours in any 24 hour period for cold startup or two hours in any 24 hour period for other reasons unless specifically authorized by DEP for longer duration.~~

27. ~~Excess emissions entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction, shall be prohibited pursuant to Rule 62-210.700, F.A.C.~~

28. ~~Excess Emissions Report: If excess emissions occur due to malfunction, the owner or operator shall notify DEP's Southwest District office within (1) working day of the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. [Rules 62-4.130 and 62-210.700(6), F.A.C.]~~

COMPLIANCE DETERMINATION

29. ~~Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate, for each fuel, at which this unit will be operated, but not later than 180 days of initial operation of the unit for that fuel, and annually thereafter as indicated in this permit, by using the following reference methods as described in 40 CFR 60, Appendix A (1997 version), and adopted by reference in Chapter 62-204.800, F.A.C. Emission limits compliance dates shall conform to the timetable specified on Specific Condition No. 20.~~

30. ~~Initial (I) performance tests shall be performed on Unit 5 while firing natural gas as well as while firing fuel oil. Initial tests shall also be conducted after any modifications (and shake down period not to exceed 100 days after restarting the CT) of air pollution control equipment, including installation of Ultra Low NOx burners, Hot SCR, or conventional SCR. Annual (A) compliance tests shall be performed during every federal fiscal year (October 1-September 30) pursuant to Rule 62-297.310(7), F.A.C., on Unit 5 as indicated. The following reference methods shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing.~~

~~EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources" (1, A).~~

~~EPA Reference Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources" (1, A).~~

~~EPA Reference Method 20, "Determination of Oxides of Nitrogen Oxide, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines." Initial test only for compliance with 40CFR60 Subpart GG and (1, A) short term NO_x BACT limits (Method 7E or RATA test data may be used to demonstrate compliance for annual test requirement).~~

~~EPA Reference Method 18, and/or 25A, "Determination of Volatile Organic Concentrations." Initial test only.~~

31. — ~~Continuous compliance with the NO_x emission limits: Continuous compliance with the NO_x emission limits shall be demonstrated with the CEM system based on the applicable averaging time of 24 hr block average (DLN or ULN technology) or a 3 hr average (if SCR is used). Based on CEMS data, a separate compliance determination is conducted at the end of each operating day (or 3 hr period when applicable) and a new average emission rate is calculated from the arithmetic average of all valid hourly emission rates from the previous operating day (or 3 hr period when applicable). Valid hourly emission rates shall not include periods of startup (including fuel switching), shutdown, or malfunction as defined in Rule 62-210.200 F.A.C., where emissions exceed the applicable NO_x standard. These excess emissions periods shall be reported as required in Condition 28.~~

~~A valid hourly emission rate shall be calculated for each hour in which at least two NO_x concentrations are obtained at least 15 minutes apart. [Rules 62-4.070 F.A.C., 62-210.700, F.A.C., and 40 CFR 75]~~

32. — ~~Compliance with the SO₂ and PM/PM₁₀ emission limits: Notwithstanding the requirements of Rule 62-297.340, F.A.C., the use of pipeline natural gas and maximum 0.05 percent sulfur (by weight) No. 2 or superior grade distillate fuel oil, is the method for determining compliance for SO₂ and PM₁₀. For the purposes of demonstrating compliance with the 40 CFR 60.333 SO₂ standard and the 0.05% S limit, fuel oil analysis using ASTM D2880-71 or D4294 (or equivalent) for the sulfur content of liquid fuels and D1072-80, D3031-81, D4084-82 or D3246-81 (or equivalent) for sulfur content of gaseous fuel shall be utilized in accordance with the EPA approved custom fuel monitoring schedule. The applicant is responsible for ensuring that the procedures above are used for determination of fuel sulfur content. Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency pursuant to 40 CFR 60.335(e) (1997 version).~~

33. — ~~Compliance with CO emission limit: An initial test for CO, shall be conducted concurrently with the initial NO_x test, as required. The initial NO_x and CO test results shall be the average of three valid one hour runs. Annual compliance testing for CO may be conducted~~

~~concurrent with the annual RATA testing for NO_x required pursuant to 40 CFR 75 (required for gas only).~~

34. ~~Compliance with the VOC emission limit: An initial test is required to demonstrate compliance with the BACT VOC emission limit. Thereafter, CO emission limit will be employed as surrogate and no annual testing is required.~~

35. ~~Testing procedures: Testing of emissions shall be conducted with the combustion turbine operating at permitted capacity. Permitted capacity is defined as 95-100 percent of the maximum heat input rate allowed by the permit, corrected for the average ambient air temperature during the test (with 100 percent represented by a curve depicting heat input vs. ambient temperature). If it is impracticable to test at permitted capacity, the source may be tested at less than permitted capacity. In this case, subsequent operation is limited by adjusting the entire heat input vs. ambient temperature curve downward by an increment equal to the difference between the maximum permitted heat input (corrected for ambient temperature) and 105 percent of the value reached during the test until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity. Test procedures shall meet all applicable requirements (i.e., testing time frequency, minimum compliance duration, etc.) of Chapter 62-204.800 F.A.C.~~

36. ~~Test Notification: The DEP's Southwest District office shall be notified, in writing, at least 30 days prior to the initial performance tests and at least 15 days before annual compliance test(s).~~

37. ~~Special Compliance Tests: The DEP may request a special compliance test pursuant to Rule 62-297.310(7), F.A.C., when, after investigation (such as complaints, increased visible emissions, or questionable maintenance of control equipment), there is reason to believe that any applicable emission standard is being violated.~~

38. ~~Test Results: Compliance test results shall be submitted to the DEP's Southwest District office no later than 45 days after completion of the last test run.~~

NOTIFICATION, REPORTING, AND RECORDKEEPING

39. ~~Records: All measurements, records, and other data required to be maintained by the City of Lakeland Department of Electric & Water Utilities shall be recorded in a permanent form and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These records shall be made available to DEP representatives upon request.~~

40. ~~Emission Compliance Stack Test Reports: A test report indicating the results of the required compliance tests shall be filed with the DEP SW District Office as soon as practical, but no later than 45 days after the last sampling run is completed. [Rule 62-297.310(8), F.A.C.].~~

The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.

MONITORING REQUIREMENTS

41. ~~Continuous Monitoring System: The permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the nitrogen oxides emissions from Unit 5. Periods when NO_x emissions (ppmvd @ 15% oxygen) are above the BACT standards, listed in Specific Condition No 20 and 21, shall be reported to the DEP Southwest District Office pursuant to Rule 62-4.160(8), F.A.C. Following the format of 40 CFR 60.7, periods of startup, shutdown, malfunction, and fuel switching shall be monitored, recorded, and reported as excess emissions when emission levels exceed the BACT standards listed in Specific Condition No. 20 and 21. (Rule 62-204.800 and 40 CFR 60.7 (1997 version))~~

42. ~~CEMS in lieu of Water to Fuel Ratio: Subject to EPA approval, the NO_x CEMS shall be used in lieu of the water/fuel monitoring system for reporting excess emissions in accordance with 40 CFR 60.334(c)(1), Subpart GG (1997 version). Subject to EPA approval, the calibration of the water/fuel monitoring device required in 40 CFR 60.335 (c)(2) (1997 version) will be replaced by the 40 CFR 75 certification tests of the NO_x CEMS. Upon request from DEP, the CEMS emission rates for NO_x on Unit 5 shall be corrected to ISO conditions to demonstrate compliance with the NO_x standard established in 40 CFR 60.332.~~

43. ~~Continuous Monitoring System Reports: The monitoring devices shall comply with the certification and quality assurance, and any other applicable requirements of Rule 62-297.520, F.A.C., 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) or 40 CFR Part 75.~~

~~Quality assurance procedures must conform to all applicable sections of 40 CFR 60, Appendix F or 40 CFR 75. Data on CEM equipment specifications, manufacturer, type, calibration and maintenance needs, and its proposed location shall be provided to the Department's Southwest District Office (DEPSWD) for review at least 90 days prior to installation.~~

44. ~~Fuel Oil Monitoring Schedule: The following monitoring schedule for No. 2 or superior grade fuel oil shall be followed: For all bulk shipments of No. 2 or superior grade fuel oil received at the C.D. McIntosh, Jr. Power Plant, an analysis which reports the sulfur content and nitrogen content of the fuel shall be provided by the fuel vendor. The analysis shall also specify the methods by which the analyses were conducted and shall comply with the requirements of 40 CFR 60.335(d).~~

45. ~~Natural Gas Monitoring Schedule: The following custom monitoring schedule for natural gas is approved (pending EPA concurrence) in lieu of the daily sampling requirements of 40 CFR 60.334 (b)(2):~~

~~Monitoring of natural gas nitrogen content shall not be required.~~

~~Analysis of the sulfur content of natural gas shall be conducted using one of the EPA approved ASTM reference methods in Specific Condition No. 32 for the measurement of sulfur in gaseous fuels, or an approved alternative method. Once Unit 5 becomes operational, monitoring of the sulfur content of the natural gas shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content and indicates consistent compliance with 40 CFR 60.333, then fuel sulfur monitoring shall be conducted once per quarter for six quarters and after that, semiannually.~~

~~Should any sulfur analysis indicate noncompliance with 40 CFR 60.333, the City shall notify DEP of such excess emissions and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while the monitoring schedule is reexamined.~~

~~The City shall notify DEP of any change in natural gas supply for reexamination of this monitoring schedule. A substantial change in natural gas quality (i.e., sulfur content variation of greater than 1 grain per 100 cubic foot of natural gas) shall be considered as a change in the natural gas supply. Sulfur content of the natural gas will be monitored weekly by the natural gas supplier during the interim period when this monitoring schedule is being reexamined.~~

~~Records of sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by the City for a period of five years, and shall be made available for inspection by the appropriate regulatory personnel.~~

~~The City may obtain the sulfur content of the natural gas from the fuel supplier (Florida Gas Transmission) provided the test methods listed in Specific Condition E.4 are used.~~

46. ~~Determination of Process Variables:~~

~~The permittee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.~~

~~Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value [Rule 62-297.310(5), F.A.C.]~~

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 624.160]

G.1 — ~~The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.~~

G.2 — ~~This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.~~

G.3 — ~~As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.~~

G.4 — ~~This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.~~

G.5 — ~~This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.~~

G.6 — ~~The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.~~

G.7 — ~~The permittee, by accepting this permit specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required~~

~~by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:~~

~~(a) — Have access to and copy and records that must be kept under the conditions of the permit;~~

~~(b) — Inspect the facility, equipment, practices, or operations regulated or required under this permit, and;~~

~~(c) — Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.~~

~~Reasonable time may depend on the nature of the concern being investigated.~~

~~G.8 — If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:~~

~~(a) — A description of and cause of non-compliance, and;~~

~~(b) — The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.~~

~~The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.~~

~~G.9 — In accepting this permit the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.~~

~~G.10 — The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.~~

~~G.11 — This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.~~

~~G.12 — This permit or a copy thereof shall be kept at the work site of the permitted activity.~~

~~G.13 — This permit also constitutes:~~

- ~~(a) — Determination of Best Available Control Technology (X)~~
- ~~(b) — Determination of Prevention of Significant Deterioration (X); and,~~
- ~~(c) — Compliance with New Source Performance Standards (X).~~

~~G.14. The permittee shall comply with the following:~~

~~(a) — Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.~~

~~(b) — The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or ties permit. These materials shall be retained at least three years from the date of the sample, measurement report, or application unless otherwise specified by Department rule.~~

~~(c) — Records of monitoring information shall include:~~

- ~~1. — The date, exact place, and time of sampling or measurements;~~
- ~~2. — The person responsible for performing the sampling or measurements;~~
- ~~3. — The dates analyses were performed;~~
- ~~4. — The person responsible for performing the analyses;~~
- ~~5. — The analytical techniques or methods used; and,~~
- ~~6. — The results of such analyses.~~

~~G.15 — When requested by the Department, the permittee, shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect~~

~~in the permit application or in any report to the Department, such facts or information shall be corrected promptly.~~

~~B. — Additional Specific Conditions~~

~~1. — If selective catalytic reduction (SCR) technology is installed, the SCR system shall be designed with a concentration of ammonia in the exhaust gas no greater than that evaluated in the Air Construction permit and PSD approval.~~

~~2. — During combined cycle operation, steam injection for power augmentation shall not exceed 3000 hours during any consecutive 12 month period. The permittee shall keep records of operation sufficient to demonstrate compliance with this limit. The permittee shall demonstrate compliance with the CO emissions standard by conducting EPA Method 10 in accordance with the following schedule:~~

~~a. — Within 60 days of implementing power augmentation, the permittee shall conduct an initial CO emissions performance test during the maximum amount of power augmentation to demonstrate compliance with the CO emissions standard.~~

~~b. — Within 45 days after utilizing power augmentation in a federal fiscal year, the permittee shall schedule and conduct a CO emissions performance test during power augmentation.~~

~~c. — Within 45 days after operating 1000 hours with power augmentation in a federal fiscal year, the permittee shall schedule and conduct a second CO emissions performance test during power augmentation.~~

~~d. — Within 45 days after operating 2000 hours with power augmentation in a federal fiscal year, the permittee shall schedule and conduct a third CO emissions performance test during power augmentation.~~

~~e. — The permittee shall comply with all notification, testing, and reporting requirements required by PSD Permit No. PSD-FL 245. NOx data compiled by the continuous monitor during each CO performance test shall be reported and summarized with each CO test report. Steam injection shall be limited to the rate during the most recent emissions performance test that demonstrated compliance with the CO standards.~~

Any party to the this Order has a right to seek judicial review of it pursuant to Section 120.68, Florida Statutes by filing a Notice of Appeal, pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000, and by filing a copy of the Notice of Appeal, accompanied by the applicable filing fees, with the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty days from the date this Order is filed with the Clerk of the Department of Environmental Protection.

McIntosh Power Plant
Order Modifying Conditions of Certification
DEP Case Number PA 74-06 I
August 5, 2003

Executed in Tallahassee, Florida.

Hamilton S. Oven
Hamilton S. Oven, P.E.
Administrator, Siting Coordination Office

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52
Florida Statutes, with the designated
Department Clerk, receipt of which is
hereby acknowledged.

Linda Kerskows 8/5/03
Clerk Date

CC by U.S. mail:

Frank Anderson, Esquire
James Antista, Esquire
Mark Carpanini Esquire
Bob Elias, Esquire
Andrew Grayson, Esquire
Scott Goorland, Esquire
Angela Morrison, Esquire
Andrew R. Reilly, Esquire
Thomas B. Tart, Esquire
Norman White, Esquire
Sheauching Yu, Esquire

CC by electronic copy only:

Kathy Carter